

AMENDMENTS TO THE CLAIMS

Presented below is a complete set of claims with current status indicators.

1. (previously presented) A method comprising:
delivering a plurality of pacing pulses to an atrium;
determining a plurality of atrioventricular conduction interval times based on the plurality of pacing pulses; and
comparing the intervals over a period of time to detect an interval pattern indicative of either normal respiration or abnormal respiration.
2. (canceled)
3. (original) The method of claim 1, wherein the atrial pacing occurs at a frequency that is at least double a respiratory frequency.
4. (original) The method of claim 1, wherein the atrial pacing occurs at a rate that varies with respect to an intrinsic rate.
5. (original) The method of claim 1, wherein the atrial pacing occurs at a rate that varies with respect to time.
6. (canceled)
7. (previously presented) A method comprising:
delivering one or more pacing pulses to an atrium;
determining one or more atrioventricular conduction interval times based on the one or more pacing pulses;
determining a respiratory characteristic based at least in part on the one or more atrioventricular conduction interval times; and
discriminating between obstructive apnea and central apnea.
8. (original) The method of claim 7, wherein the discriminating relies at least in part on a measurement related to chest movement.

9. – 14. (canceled)

15. (previously presented) A method comprising:
determining atrioventricular conduction interval times over a period of time; and
comparing the intervals to detect an interval pattern indicative of either normal
respiration or abnormal respiration.

16. (canceled)

17. (original) The method of claim 15, further comprising delivering one or
more pacing pulses to an atrium, and wherein determining the atrioventricular
conduction interval time comprises determining an interval from the pacing pulses to an
intrinsic ventricular event.

18. – 20. (canceled)

21. (previously presented) An apparatus comprising:
means for determining atrioventricular conduction interval times over a period of
time; and
means for comparing the intervals to detect an interval pattern indicative of either
normal respiration or abnormal respiration.

22. (canceled)

23. (previously presented) An implantable cardiac stimulation system
comprising:
sensing circuitry operative to sense atrial and ventricular events;
a processor connected to the sensing circuitry and operative to:
determine atrioventricular conduction interval times based on the atrial
and ventricular events; and
compare the intervals over a period of time to detect an interval pattern
indicative of either normal respiration or abnormal respiration.

24. (canceled)

25. (previously presented) An implantable cardiac stimulation system comprising:

sensing circuitry operative to sense atrial and ventricular events;

a processor connected to the sensing circuitry and operative to:

determine one or more atrioventricular conduction interval times based on the atrial and ventricular events;

determine a respiratory characteristic based at least in part on the one or more atrioventricular conduction interval times;

determine whether the respiratory characteristic indicates apnea; and discriminate between obstructive apnea and central apnea.

26. (original) The system of claim 23, further comprising a pulse generator operative to generate stimulation pulses for delivery to a patient's heart, and at least one electrode connected to the pulse generator and configured for implant within the patient to deliver the stimulation pulses to the patient's heart, wherein the processor is operative to determine atrioventricular conduction interval times based on the delivered stimulation pulses and corresponding sensed ventricular events.

27. – 28. (canceled)

29. (previously presented) The method of claim 1 wherein normal respiration is indicated by a substantially cyclical interval pattern.

30. (previously presented) The method of claim 1 wherein abnormal respiration is indicated by the absence of a substantially cyclical interval pattern.

31. (previously presented) The method of claim 1 further comprising:
noting the presence of a substantially cyclical interval pattern; and
determining a respiratory cycle length based on the substantially cyclical interval pattern.

32. (previously presented) The method of claim 15 further comprising:
noting the presence of a substantially cyclical interval pattern; and
determining a respiratory cycle length based on the substantially cyclical interval pattern.